

NON-PUBLIC?: N
ACCESSION #: 9106260361
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Joseph M. Farley Nuclear Plant - Unit 1 PAGE: 1 OF 3

DOCKET NUMBER: 05000348

TITLE: Inadvertent OTDT Reactor Trip During Testing
EVENT DATE: 05/24/91 LER #: 91-006-00 REPORT DATE: 06/20/91

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 078

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR
SECTION:
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: D. N. Morey, General Manager - TELEPHONE: (205) 899-5156
Nuclear Plant

COMPONENT FAILURE DESCRIPTION:
CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE NPRDS:

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT:

At 0050 on 05-24-91, with the unit operating at approximately 78 percent power, a reactor trip occurred when the two-out-of-three coincidence was satisfied for over-temperature-delta-temperature (OTDT). Work in progress on pressurizer pressure instrument PT456 required channel II of OTDT to be placed in the tripped condition. During the same time period, a portable instrument was attached to what was believed to be a spare resistance temperature detector (RTD) in channel I to support an unrelated test. However, the RTD was actually the one used by the OTDT channel. Attaching the test instrument to the RTD caused the second channel of OTDT to enter the tripped condition and the coincidence for a reactor trip was satisfied.

This event was caused by failure to request a drawing revision when a spare RTD was placed in service in 1977. Therefore, drawings used by the designer in the development of the 1991 RTD bypass removal design change

did not show that a spare RTD had been placed in service. The post-modification test of the new RTD installation was not sufficiently thorough to detect this condition.

All the associated wiring has been verified to be in agreement with the current RTD bypass removal design change. The appropriate Maintenance and Plant Modifications personnel will be trained on this event.

END OF ABSTRACT

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Plant and System Identification

Westinghouse - Pressurized Water Reactor
Energy Industry Identification System codes are identified in the text as XX!.

Summary of Event

At 0050 on 05-24-91, with the unit operating at approximately 78 percent power, a reactor trip occurred when the two-out-of-three coincidence was satisfied for over-temperature-delta-temperature (OTDT) JC!.

Description of Event

During the tenth refueling outage, Production Change Notice (PCN) B88-1-5259 eliminated the previously existing resistance temperature detector (RTD) bypass manifolds. New dual element RTDs were installed in the reactor coolant loops. The electronic circuits which process and use the RTD measurements were also modified. With the dual element RTDs, one element is used for reactor protection and control. The second element serves as an installed spare.

On 05-24-91, the unit was increasing power following the tenth refueling outage. Maintenance personnel were calibrating pressurizer pressure transmitter PT456. The calibration required channel II of OTDT to be placed in the tripped condition.

Also, preparations were being made to perform procedure FNP-1-STP-115.1 (Reactor Coolant System Flow Measurement). This procedure involves connecting a portable test instrument to the spare RTD terminals in the control room instrument racks. FNP-1-STP-115.1 specified that the test instrument was to be connected to the spare RTDs. Following the instructions of FNP-1-STP-115.1, personnel connected the test leads to

the channel II RTD terminals without incident.

At 0050 on 05-24-91, when the test leads were connected to the terminals of what was believed to be the spare channel I RTD, channel I OTDT trip bistable was actuated and the two-out-of-three channel coincidence for a reactor trip was satisfied. Following the trip, the operators implemented FNP-1-EEP-0 (Reactor Trip or Safety Injection) and FNP-1-ESP-0.1 (Reactor Trip Response), ensuring that the unit was safely in Mode 3 (Hot Standby). The unit was maintained in a stable condition.

An investigation revealed that the drawings used for PCN B88-1-5259 did not reflect the actual wiring configuration at the plant. One of the RTDs in channel I had failed in November, 1977, and the spare RTD had been placed in service. The applicable plant drawing was marked up to show the change and was controlled locally in accordance with procedures. However, a design change request was not initiated to revise the vendor controlled drawing. Thus, when the designer developed the drawings for PCN B88-1-5259, the drawings did not show that the spare RTD had been placed in service. The RTD which was believed to be a spare was actually the one used by the OTDT channel. Attaching the test instrument to the RTD caused the trip bistables to actuate on the second channel of OTDT and the coincidence for a reactor trip was satisfied.

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Cause of Event

This event was caused by failure to request a drawing revision when a spare RTD was placed in service in 1977. Therefore, drawings used by the designer in the development of the 1991 RTD bypass removal design change did not show that a spare RTD had been placed in service. The post-modification test of the new RTD installation was not sufficiently thorough to detect this condition.

Reportability Analysis and Safety Assessment

This event is reportable because of the actuation of the reactor protection system. After the trip, the following safety systems operated as designed:

- main feedwater was isolated with flow control valves and bypass valves closed;
- auxiliary feedwater pumps started automatically and provided flow to the steam generators;
- source range nuclear instrumentation automatically energized;
- pressurizer heaters and spray valves operated automatically as

required to maintain system pressure.

There was no effect on the health and safety of the public.

Corrective Action

All the associated wiring has been verified to be in agreement with the current RTD bypass removal design change. Additional wiring checks were performed so that the RTD loop has been checked end-to-end. A check has shown that use of the spare RTDs had no significant effect on the plant protection and control systems.

The plant 7300 protection system is being checked against the controlled drawings. Any discrepancies found will be corrected. The appropriate Maintenance and Plant Modifications personnel will be trained on this event.

Additional Information

No similar LERs have been submitted by Farley Nuclear Plant.

No component failures occurred during this event.

This event would not have been more severe if it had occurred under different operating conditions.

The unit returned to power operation at 0413 on 05-25-91.

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Alabama Power Company
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201
Telephone 205 868-5086

Alabama Power
J. D. Woodard the southern electric system
Vice President-Nuclear June 20, 1991
Farley Project
10 CFR 50.73

Docket No. 50-348

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk

Washington, DC 20555

Joseph M. Farley Nuclear Plant - Unit 1
Licensee Event Report No. LER 91-006-00

Gentlemen:

Joseph M. Farley Nuclear Plant, Unit 1, Licensee Event Report No. LER 91-006-00 is being submitted in accordance with 10 CFR 50.73. If you have any questions, please advise.

Respectfully submitted,

J. D. Woodard

JDW/BHW:map 0223

Enclosure

cc: Mr. S. D. Ebnetter
Mr. G. F. Maxwell

*** END OF DOCUMENT ***
